

VII. COMPLIANCE AND ENFORCEMENT PROFILE

Background

To date, EPA has focused much of its attention on measuring compliance with specific environmental statutes. This approach allows the Agency to track compliance with the Clean Air Act, the Resource Conservation and Recovery Act, the Clean Water Act, and other environmental statutes. Within the last several years, the Agency has begun to supplement single-media compliance indicators with facility-specific, multimedia indicators of compliance. In doing so, EPA is in a better position to track compliance with all statutes at the facility level, and within specific industrial sectors.

A major step in building the capacity to compile multimedia data for industrial sectors was the creation of EPA's Integrated Data for Enforcement Analysis (IDEA) system. IDEA has the capacity to "read into" the Agency's single-media databases, extract compliance records, and match the records to individual facilities. The IDEA system can match Air, Water, Waste, Toxics/Pesticides/EPCRA, TRI, and Enforcement Docket records for a given facility, and generate a list of historical permit, inspection, and enforcement activity. IDEA also has the capability to analyze data by geographic area and corporate holder. As the capacity to generate multimedia compliance data improves, EPA will make available more in-depth compliance and enforcement information. Additionally, sector-specific measures of success for compliance assistance efforts are under development.

Compliance and Enforcement Profile Description

Using inspection, violation, and enforcement data from the IDEA system, this section provides information regarding the historical compliance and enforcement activity of this sector. In order to mirror the facility universe reported in the Toxic Chemical Profile, the data reported within this section consists of records only from the TRI reporting universe. With this decision, the selection criteria are consistent across sectors with certain exceptions. For the sectors that do not normally report to the TRI program, data have been provided from EPA's Facility Indexing System (FINDS) which tracks facilities in all media databases. Please note, in this section, EPA does not attempt to define the actual number of facilities that fall within each sector. Instead, the section portrays the records of a subset of facilities within the sector that are well defined within EPA databases.

As a check on the relative size of the full sector universe, most notebooks contain an estimated number of facilities within the sector according to the Bureau of Census (See Section II). With sectors dominated by small businesses, such as metal finishers and printers, the reporting universe within the EPA databases may

be small in comparison to Census data. However, the group selected for inclusion in this data analysis section should be consistent with this sector's general make-up.

Following this introduction is a list defining each data column presented within this section. These values represent a retrospective summary of inspections and enforcement actions, and solely reflect EPA, State, and local compliance assurance activities that have been entered into EPA databases. To identify any changes in trends, the EPA ran two data queries, one for the past five calendar years (August 10, 1990 to August 9, 1995) and the other for the most recent twelve-month period (August 10, 1994 to August 9, 1995). The five-year analysis gives an average level of activity for that period for comparison to the more recent activity.

Because most inspections focus on single-media requirements, the data queries presented in this section are taken from single media databases. These databases do not provide data on whether inspections are State/local or EPA-led. However, the table breaking down the universe of violations does give the reader a crude measurement of the EPA's and States' efforts within each media program. The presented data illustrate the variations across regions for certain sectors.² This variation may be attributable to State/local data entry variations, specific geographic concentrations, proximity to population centers, sensitive ecosystems, highly toxic chemicals used in production, or historical noncompliance. Hence, the exhibited data do not rank regional performance or necessarily reflect which regions may have the most compliance problems.

Compliance and Enforcement Data Definitions

General Definitions

Facility Indexing System (FINDS) -- this system assigns a common facility number to EPA single-media permit records. The FINDS identification number allows EPA to compile and review all permit, compliance, enforcement, and pollutant release data for any given regulated facility.

Integrated Data for Enforcement Analysis (IDEA) -- is a data integration system that can retrieve information from the major EPA program office databases. IDEA uses the FINDS identification number to "glue together" separate data records from EPA's databases. This is done to create a "master list" of data records for any given facility. Some of the data systems accessible through IDEA are: AIRS (Air Facility Indexing and Retrieval System, Office of Air and Radiation), PCS (Permit Compliance System, Office of Water), RCRIS (Resource Conservation and Recovery Information System, Office of Solid Waste), NCDB (National Compliance Data Base, Office of Prevention, Pesticides, and Toxic

Substances), CERCLIS (Comprehensive Environmental and Liability Information System, Superfund), and TRIS (Toxic Release Inventory System). IDEA also contains information from outside sources such as Dun and Bradstreet and the Occupational Safety and Health Administration (OSHA). Most data queries displayed in notebook Sections IV and VII were conducted using IDEA.

Data Table Column Heading Definitions

Facilities in Search -- are based on the universe of TRI reporters within the listed SIC code range. For industries not covered under TRI reporting requirements, the notebook uses the FINDS universe for executing data queries. The SIC code range selected for each search is defined by each notebook's selected SIC code coverage described in Section II.

Facilities Inspected --- indicates the level of EPA and State agency facility inspections for the facilities in this data search. These values show what percentage of the facility universe is inspected in a 12 or 60 month period. This column does not count non-inspectional compliance activities such as the review of facility-reported discharge reports.

Number of Inspections -- measures the total number of inspections conducted in this sector. An inspection event is counted each time it is entered into a single media database.

Average Time Between Inspections -- provides an average length of time, expressed in months, that a compliance inspection occurs at a facility within the defined universe.

Facilities with One or More Enforcement Actions -- expresses the number of facilities that were party to at least one enforcement action within the defined time period. This category is broken down further into Federal and State actions. Data are obtained for administrative, civil/judicial, and criminal enforcement actions. Administrative actions include Notices of Violation (NOVs). A facility with multiple enforcement actions is only counted once in this column (facility with 3 enforcement actions counts as 1). All percentages that appear are referenced to the number of facilities inspected.

Total Enforcement Actions -- describes the total number of enforcement actions identified for an industrial sector across all environmental statutes. A facility with multiple enforcement actions is counted multiple times (a facility with 3 enforcement actions counts as 3).

State Lead Actions -- shows what percentage of the total enforcement actions are taken by State and local environmental agencies. Varying levels of use by States

of EPA data systems may limit the volume of actions accorded State enforcement activity. Some States extensively report enforcement activities into EPA data systems, while other States may use their own data systems.

Federal Lead Actions -- shows what percentage of the total enforcement actions are taken by the U.S. EPA. This value includes referrals from State agencies. Many of these actions result from coordinated or joint State/Federal efforts.

Enforcement to Inspection Rate -- expresses how often enforcement actions result from inspections. This value is a ratio of enforcement actions to inspections, and is presented for comparative purposes only. This measure is a rough indicator of the relationship between inspections and enforcement. This measure simply indicates historically how many enforcement actions can be attributed to inspection activity. Related inspections and enforcement actions under the Clean Water Act (PCS), the Clean Air Act (AFS) and the Resource Conservation and Recovery Act (RCRA) are included in this ratio. Inspections and actions from the TSCA/FIFRA/EPCRA database are not factored into this ratio because most of the actions taken under these programs are not the result of facility inspections. This ratio does not account for enforcement actions arising from non-inspection compliance monitoring activities (e.g., self-reported water discharges) that can result in enforcement action within the CAA, CWA and RCRA.

Facilities with One or More Violations Identified -- indicates the number and percentage of inspected facilities having a violation identified in one of the following data categories: In Violation or Significant Violation Status (CAA); Reportable Noncompliance, Current Year Noncompliance, Significant Noncompliance (CWA); Noncompliance and Significant Noncompliance (FIFRA, TSCA, and EPCRA); Unresolved Violation and Unresolved High Priority Violation (RCRA). The values presented for this column reflect the extent of noncompliance within the measured time frame, but do not distinguish between the severity of the noncompliance. Percentages within this column can exceed 100% because facilities can be in violation status without being inspected. Violation status may be a precursor to an enforcement action, but does not necessarily indicate that an enforcement action will occur.

Media Breakdown of Enforcement Actions and Inspections -- four columns identify the proportion of total inspections and enforcement actions within EPA Air, Water, Waste, and TSCA/FIFRA/EPCRA databases. Each column is a percentage of either the "Total Inspections," or the "Total Actions" column.

VII.A. Stone, Clay, Glass, and Concrete Products Industry Compliance History

Exhibits 17-21 illustrate recent enforcement activity within the Stone, Clay, Glass, and Concrete Products Industry and other industries in the manufacturing sector. Of the 2,475 inspections conducted at stone, clay, glass, and concrete products facilities over a five year period, 268, or 11 percent, resulted in enforcement actions. Approximately 11 percent of inspections in the manufacturing sector as whole resulted in enforcement actions. States took the lead in 70 percent of the enforcement actions at stone, clay, glass, and concrete products facilities, which was below the average of 74 percent for the covered manufacturing sector. The exhibits also show that RCRA and CAA inspections occurred more frequently than CWA inspections within most industries, including those covered under SIC 32.

VII.B. Comparison of Enforcement Activity Between Selected Industries

The following exhibits present inspection and enforcement information across numerous manufacturing sector industries including the stone, clay, glass, and concrete industry.

Exhibit 17
Five Year Enforcement and Compliance Summary by Statute
for the Stone, Clay, Glass and Concrete Industry

A	B	C	D	E	F	G	H	I	J
Stone, Clay, and Glass SIC 32	Facilities in Search	Facilities Inspected	Number of Inspections	Average Number of Months Between Inspections	Facilities w/one or more Enforcement Actions	Total Enforcement Actions	State Lead Actions	Federal Lead Actions	Enforcement to Inspection Rate
Region I	8	11	32	16	1	1	100%	0%	0.03
Region II	30	35	280	7	9	54	87%	13%	0.19
Region III	58	55	435	8	12	99	88%	12%	0.23
Region IV	106	90	828	8	21	117	75%	25%	0.14
Region V	105	86	464	14	13	24	63%	38%	0.05
Region VI	57	32	208	17	11	36	81%	19%	0.17
Region VII	29	28	223	8	12	33	24%	76%	0.15
Region VIII	19	11	40	30	2	2	50%	50%	0.05
Region IX	40	18	74	34	4	11	82%	18%	0.15
Region X	10	5	13	48	1	1	-	100%	0.08
Total/Average	462	371	2,597	11	86	378	75%	25%	0.15

Exhibit 18
Five Year Enforcement and Compliance Summary for Selected Industries

A	B	C	D	E	F	G	H	I	J
Industry Sector	Facilities in Search	Facilities Inspected	Number of Inspections	Average Number of Months Between Inspections	Facilities w/One or More Enforcement Actions	Total Enforcement Actions	State Lead Actions	Federal Lead Actions	Enforcement to Inspection Rate
Metal Mining	873	339	1,519	34	67	155	47%	53%	0.10
Non-metallic Mineral Mining	1,143	631	3,422	20	84	192	76%	24%	0.06
Lumber and Wood	464	301	1,891	15	78	232	79%	21%	0.12
Furniture	293	213	1,534	11	34	91	91%	9%	0.06
Rubber and Plastic	1,665	739	3,386	30	146	391	78%	22%	0.12
Stone, Clay, and Glass	468	268	2,475	11	73	301	70%	30%	0.12
Nonferrous Metals	844	474	3,097	16	145	470	76%	24%	0.15
Fabricated Metal	2,346	1,340	5,509	26	280	840	80%	20%	0.15
Electronics/Computers	405	222	777	31	68	212	79%	21%	0.27
Motor Vehicle Assembly	598	390	2,216	16	81	240	80%	20%	0.11
Pulp and Paper	306	265	3,766	5	115	502	78%	22%	0.13
Printing	4,106	1,035	4,723	52	176	514	85%	15%	0.11
Inorganic Chemicals	548	298	3,034	11	99	402	76%	24%	0.13
Organic Chemicals	412	316	3,864	6	152	726	66%	34%	0.19
Petroleum Refining	156	145	3,257	3	110	797	66%	34%	0.25
Iron and Steel	374	275	3,555	6	115	499	72%	28%	0.14
Dry Cleaning	933	245	633	88	29	103	99%	1%	0.16

Exhibit 19
One Year Enforcement and Compliance Summary for Selected Industries

A	B	C	D	E		F		G	H
Industry Sector	Facilities in Search	Facilities Inspected	Number of Inspections	Facilities w/One or More Violations		Facilities w/One or More Enforcement Actions		Total Enforcement Actions	Enforcement to Inspection Rate
				Number	Percent*	Number	Percent*		
Metal Mining	873	114	194	82	72%	16	14%	24	0.13
Non-metallic Mineral Mining	1,143	253	425	75	30%	28	11%	54	0.13
Lumber and Wood	464	142	268	109	77%	18	13%	42	0.15
Furniture	293	160	113	66	41%	3	2%	5	0.04
Rubber and Plastic	1,665	271	435	289	107%	19	7%	59	0.14
Stone, Clay, and Glass	468	146	330	116	79%	20	14%	66	0.20
Nonferrous Metals	844	202	402	282	140%	22	11%	72	0.18
Fabricated Metal	2,346	477	746	525	110%	46	10%	114	0.15
Electronics/Computers	405	60	87	80	133%	8	13%	21	0.24
Motor Vehicle Assembly	598	169	284	162	96%	14	8%	28	0.10
Pulp and Paper	306	189	576	162	86%	28	15%	88	0.15
Printing	4,106	397	676	251	63%	25	6%	72	0.11
Inorganic Chemicals	548	158	427	167	106%	19	12%	49	0.12
Organic Chemicals	412	195	545	197	101%	39	20%	118	0.22
Petroleum Refining	156	109	437	109	100%	39	36%	114	0.26
Iron and Steel	374	167	488	165	99%	20	12%	46	0.09
Dry Cleaning	933	80	111	21	26%	5	6%	11	0.10

*Percentages in Columns E and F are based on the number of facilities inspected (Column C). Percentages can exceed 100% because violations and actions can occur without a facility inspection.

Exhibit 20
Five Year Inspection and Enforcement Summary by
Statute for Selected Industries

Industry Sector	Number of Facilities Inspected	Total Inspections	Enforcement Actions	Clean Air Act		Clean Water Act		Resource Conservation and Recovery Act		FIFRA/TSCA/* EPCRA/Other	
				% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions
Metal Mining	339	1,519	155	35%	17%	57%	60%	6%	14%	1%	9%
Non-metallic Mineral Mining	631	3,422	192	65%	46%	31%	24%	3%	27%	<1%	4%
Lumber and Wood	301	1,891	232	31%	21%	8%	7%	59%	67%	2%	5%
Furniture	293	1,534	91	52%	27%	1%	1%	45%	64%	1%	8%
Rubber and Plastic	739	3,386	391	39%	15%	13%	7%	44%	68%	3%	10%
Stone, Clay and Glass	268	2,475	301	45%	39%	15%	5%	39%	51%	2%	5%
Nonferrous Metals	474	3,097	470	36%	22%	22%	13%	38%	54%	4%	10%
Fabricated Metal	1,340	5,509	840	25%	11%	15%	6%	56%	76%	4%	7%
Electronics/Computers	222	777	212	16%	2%	14%	3%	66%	90%	3%	5%
Motor Vehicle Assembly	390	2,216	240	35%	15%	9%	4%	54%	75%	2%	6%
Pulp and Paper	265	3,766	502	51%	48%	38%	30%	9%	18%	2%	3%
Printing	1,035	4,723	514	49%	31%	6%	3%	43%	62%	2%	4%
Inorganic Chemicals	302	3,034	402	29%	26%	29%	17%	39%	53%	3%	4%
Organic Chemicals	316	3,864	726	33%	30%	16%	21%	46%	44%	5%	5%
Petroleum Refining	145	3,237	797	44%	32%	19%	12%	35%	52%	2%	5%
Iron and Steel	275	3,555	499	32%	20%	30%	18%	37%	58%	2%	5%
Dry Cleaning	245	633	103	15%	1%	3%	4%	83%	93%	<1%	1%

*

Actions taken to enforce the Federal Insecticide, Fungicide, and Rodenticide Act; the Toxic Substances and Control Act, and the Emergency Planning and Community Right-to-Know Act as well as other Federal environmental laws.

Exhibit 21
One Year Inspection and Enforcement Summary by
Statute for Selected Industries

Industry Sector	Number of Facilities Inspected	Total Inspections	Enforcement Actions	Clean Air Act		Clean Water Act		Resource Conservation and Recovery Act		FIFRA/TSCA/EPCRA/Other	
				% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions
Metal Mining	114	194	24	47%	42%	43%	34%	10%	6%	<1%	19%
Non-metallic Mineral Mining	253	425	54	69%	58%	26%	16%	5%	16%	<1%	11%
Lumber and Wood	142	268	42	29%	20%	8%	13%	63%	61%	<1%	6%
Furniture	293	160	5	58%	67%	1%	10%	41%	10%	<1%	13%
Rubber and Plastic	271	435	59	39%	14%	14%	4%	46%	71%	1%	11%
Stone, Clay, and Glass	146	330	66	45%	52%	18%	8%	38%	37%	<1%	3%
Nonferrous Metals	202	402	72	33%	24%	21%	3%	44%	69%	1%	4%
Fabricated Metal	477	746	114	25%	14%	14%	8%	61%	77%	<1%	2%
Electronics/Computers	60	87	21	17%	2%	14%	7%	69%	87%	<1%	4%
Motor Vehicle Assembly	169	284	28	34%	16%	10%	9%	56%	69%	1%	6%
Pulp and Paper	189	576	88	56%	69%	35%	21%	10%	7%	<1%	3%
Printing	397	676	72	50%	27%	5%	3%	44%	66%	<1%	4%
Inorganic Chemicals	158	427	49	26%	38%	29%	21%	45%	36%	<1%	6%
Organic Chemicals	195	545	118	36%	34%	13%	16%	50%	49%	1%	1%
Petroleum Refining	109	439	114	50%	31%	19%	16%	30%	47%	1%	6%
Iron and Steel	167	488	46	29%	18%	35%	26%	36%	50%	<1%	6%
Dry Cleaning	80	111	11	21%	4%	1%	22%	78%	67%	<1%	7%

* Actions taken to enforce the Federal Insecticide, Fungicide, and Rodenticide Act; the Toxic Substances and Control Act, and the Emergency Planning and Community Right-to-Know Act as well as other Federal environmental laws.

VII.C. Review of Major Legal Actions

VII.C.1 Review of Major Cases

This section provides summary information about major cases that have affected this sector. As indicated in EPA's Enforcement Accomplishments Report, FY 1991, FY 1992, FY 1993 publications, six significant enforcement actions were resolved between 1991 and 1993 for the stone, clay, glass, and concrete products industry. Of the companies against which actions were brought, two were glass manufacturing companies and four were cement manufacturing companies. For the glass industry, CAA violations were involved in one action concerning inorganic arsenic, with the other case involving RCRA/CERCLA violations concerning the disposal of lead sludge. All cement manufacturing cases involved the operation of cement manufacturing kilns. CAA violations comprised two of the cement industry cases, along with one CERCLA and one RCRA violation.

All six enforcement actions involved the improvement of processes or technologies, or required some action to increase future compliance. Three of the six cases also involved the assessment of a penalty, including both glass company cases. Penalties ranged from \$250,000 to \$1,825,000. In U.S. v. Corning Inc., Asahi, Asahi Glass America, Inc. and Corning Ashahi Video Products (1992), the company was required to pay \$1,825,000 in civil penalties in this inorganic arsenic National Emissions Standards for Hazardous Air Pollutants (NESHAP) case, in addition to upgrading the electrostatic precipitators serving its glass manufacturing furnaces, developing and implementing an operation and maintenance plan, and conducting stack tests and repairs. This civil penalty is the largest ever obtained in an inorganic arsenic NESHAP case, and is one of the largest civil penalties obtained in any NESHAP case.

Cement industry enforcement actions dealt mainly with cement kiln dust disposal or cement kiln dust emissions. In a case involving the Lehigh Portland Cement Company (1992), EPA issued an Administrative Order directing the company to perform a specified remedial design and remedial action to deal with large quantities of cement kiln dust that had been disposed of on the site surface and in abandoned limestone quarries. The dust disposed at the site is the source of elevated creek pH levels and increased heavy metal concentrations at the site. The estimated cost of the remedy is \$5,000,000.

There was one enforcement case involving the burning of hazardous waste for energy recovery using cement kilns located in Kansas and Missouri. Each facility entered into operating agreements under the Boiler and Industrial Furnace (BIF) regulations, promulgated pursuant to RCRA.

VII.C.2. Supplemental Environmental Projects (SEPs)

Below is a list of Supplementary Environmental Projects (SEPs). SEPs are compliance agreements that reduce a facility's stipulated penalty in return for an environmental project that exceeds the value of the reduction. Often, these projects fund pollution prevention activities that can significantly reduce the future pollutant loadings of a facility.

In December, 1993, the Regions were asked by EPA's Office of Enforcement and Compliance Assurance to provide information on the number and type of SEPs entered into by the Regions. Exhibit 22 contains a representative sample of the Regional responses addressing the stone, clay, glass, and concrete products industry. The information contained in the chart is not comprehensive and provides only a sample of the types of SEPs developed for the stone, clay, glass, and concrete products industry.

Exhibit 22
Supplemental Environmental Projects
Stone, Glass, and Cement Products (SIC 32)

Case Name	EPA Region	Statute/ Type of Action	Type of SEP	Estimated Cost to Company	Expected Environmental Benefits	Final Assessed Penalty	Final Penalty After Mitigation
Florida Tile Industry	4		Pollution Prevention	\$ 333,930	Reduce zinc oxide in glazes. Implement zero discharge stormwater management.	\$ 493,070	Information Not Available
Louie Glass Company, Inc. Weston, WV	3	EPCRA	Equipment Donation	\$ 14,126	Donate money for a spill response trailer and equipment; delivery of the spill response trailer and equipment; and purchase of a mapping diskette.	\$ 42,000	Information Not Available

VIII. COMPLIANCE ACTIVITIES AND INITIATIVES

This section highlights the activities undertaken by this industry sector and public agencies to voluntarily improve the sector's environmental performance. These activities include those independently initiated by industrial trade associations. In this section, the notebook also contains a listing and description of national and regional trade associations.

VIII.A. Sector-Related Environmental Programs and Activities

Alpine Technology of Eugene, Oregon, has developed a technology that will enable glass manufacturers to effectively reuse glass. This technology, called optical ceramic sortation technology, uses optical sensors and compressed air to remove ceramic and other contaminants from waste glass. Development of this innovative technology has been made possible through a grant from the Department of Energy (DOE) and the EPA. (Contact: Bill Ives, DOE Golden Colorado Office, 303-275-4755)

The U.S. Bureau of Mines (USBM) Environmental Program is providing technology to prevent environmental pollution and to provide a healthy working environment. In the environmental health area, USBM is developing controls for airborne contaminants in mines and mineral processing operations. The projects have applications to plants that process stone, sand, glass, and concrete products. (Contact: Dr. J. Harrison Daniel, Research Staff, USBM, (202) 501-9309)

The California Environmental Protection Agency Department of Toxic Substances Control (Contact: Melissa Salinas 916-322-7636) keeps track of the generation, transportation, treatment, and disposal of all hazardous wastes within the State through the use of the Uniform Hazardous Waste Manifests (Manifest). The Manifest requires that large generators certify that they "have a program in place to minimize the volume and toxicity of waste generated . . . determined to be economically practicable" and that they have selected the "practicable method of treatment, storage, or disposal currently available . . . which minimizes the present and future threat to human health and the environment." Small quantity generators must certify that they have made a "good faith effort to minimize . . . waste generation" and have selected the best affordable waste management method available. The Department maintains a warehouse of information related to pollution prevention, including publications such as "Waste Audit Study: Stone, Clay, Glass, and Concrete Products Industries" and "Hazardous Waste Minimization Checklist and Assessment Manual for the Ceramic Products Industry."

VIII.B. EPA Voluntary Programs

EPA 33/50 Program

The "33/50 Program" is EPA's voluntary program to reduce toxic chemical releases and transfers of 17 chemicals from manufacturing facilities. Participating companies pledge to reduce their toxic chemical releases and transfers by 33 percent as of 1992 and by 50 percent as of 1995 from the 1988 baseline year. Certificates of Appreciation have been given to participants who met their 1992 goals. The list of chemicals includes 17 high-use chemicals reported in the Toxics Release Inventory.

For the stone, clay, glass, and concrete products industry, of the 20 TRI reported chemicals with the highest levels of releases and transfers, six are on EPA's 33/50 program list of targeted chemicals. These chemicals are chromium compounds, lead compounds, methyl ethyl ketone, toluene, 1,1,1-trichloroethane, and xylene.

Exhibit 23 lists those companies participating in the 33/50 program that reported under SIC code 32 to TRI. Many of the participating companies listed multiple SIC codes (in no particular order), and are therefore likely to conduct operations in addition to stone, clay, glass, and concrete Products. The table shows the number of facilities within each company that are participating in the 33/50 program; each company's total 1993 releases and transfers of 33/50 chemicals; and the percent reduction in these chemicals since 1988.

Fifty-one companies listed under SIC 32 (stone, clay, glass, and concrete industries) are currently participating in the 33/50 program. They account for 28 percent of the 178 companies under SIC 32, which is double the average for all industries of 14 percent participation. (Contact: Mike Burns 202-260-6394 or the 33/50 Program 202-260-6907)

Exhibit 23
Stone, Clay, Glass, and Concrete Products Facilities Participating
in the 33/50 Program

Parent Facility name	Parent City	ST	SIC Codes	# of Participating Facilities	1993 Releases and Transfers (lbs.)	% Reduction 1988 to
3m Minnesota Mining & Mfg Co	St. Paul	MN	2834, 3842, 2695, 8731, 3291, 2672	11	16,481,098	70
Adolph Coors Company	Golden	CO	3264	2	158,792	59
Allied Mineral Products Inc	Columbus	OH	3297	1	404	***
Allied-Signal Inc	Morristown	NJ	3292, 2821	1	2,080,501	50
Ameron Inc Delaware	Pasadena	CA	3272, 3317, 3443, 3479	2	184,882	**
Apogee Enterprises Inc	Minneapolis	MN	3231	1	423,862	15
Armstrong World Industries	Lancaster	PA	3251	4	1,109,350	*
Ball Corporation	Muncie	IN	3221	5	721,859	86
Bp America Inc	Cleveland	OH	3297	1	1,597,404	24
Certaineed Corporation	Valley Forge	PA	3296	4	15,429	50
Chrysler Corporation	Highland Park	MI	3231	1	3,623,717	80
Corning Inc	Corning	NY	3231	8	1,521,528	14
Dal-Tile Group Inc	Dallas	TX	3253	2	1,721	97
Dana Corporation	Toledo	OH	3293	1	1,652,123	**
Dresser Industries Inc	Dallas	TX	3255	1	127,187	42
Duncan Financial Corporation	Fresno	CA	3269, 3299, 2851	1	6,139	50
Fair Rite Products Corp	Wallkill	NY	3264	2	2,250	***
Ford Motor Company	Dearborn	MI	3211	3	15,368,032	15
Fritz Industries Inc	Mesquite	TX	3272	1	10,000	77
Gaf Corporation	Wayne	NJ	3295	3	944,730	44
General Electric Company	Fairfield	CT	3291, 3545	4	5,010,856	50
Haeger Industries Inc	Dundee	IL	3269	2	2,106	4
Hm Anglo-American Ltd	New York	NY	3241	1	1,265,741	2
Inland Steel Industries Inc	Chicago	IL	3312, 3274	1	733,786	48
Knauf Fiber Glass Gmbh	Shelbyville	IN	3296	1	6,171	*
Leco Corporation	Saint Joseph	MI	3826, 3471, 3229	1	6,800	14
Lockheed Corporation	Calabasas	CA	3271	3	982,611	35
Martin Marietta Corporation	Bethesda	MD	3297, 3295	2	223,286	73
Morgan Stanley Leveraged	New York	NY	3274	4	2,166,420	13
Motorola Inc	Schaumburg	IL	3679, 3299	1	226,357	50
Newell Co	Freeport	IL	3229	1	324,283	23
North American Philips Corp	New York	NY	3229	1	1,281,928	50
Norton Company	Worcester	MA	3291	4	40,831	63
Oregon Steel Mills Inc	Portland	OR	3312, 3295	1	14,533	12
Owens-Corning Fiberglas Corp	Toledo	OH	3229, 2821	7	141,203	50
Owens-Illinois Inc	Toledo	OH	3221	19	412,573	***

Exhibit 23 (cont'd)
Stone, Clay, Glass, and Concrete Products Facilities Participating
in the 33/50 Program

Parent Facility name	Parent City	ST	SIC Codes	# of Participating Facilities	1993 Releases and Transfers (lbs.)	% Reduction 1988 to
Pfizer Inc	New York	NY	3297	2	2,176,460	50
Ppg Industries Inc	Pittsburgh	PA	3231	5	2,772,331	50
Refractory Sales & Service	Bessemer	AL	3297, 3272	1	1,000	50
Schuller Corporation	Denver	CO	3229	5	24,694	***
St. George Crystal Ltd	Jeannette	PA	3229	1	510	*
Stanley Works	New Britain	CT	3231, 3089, 2499	1	508,199	50
Summitville Tiles Inc	Summitville	OH	3253	2	10	*
Sunnen Products Company	Maplewood	MO	3291, 3541, 3545	1	2,928	42
Superior Graphite Co	Chicago	IL	3295	1	2,102	10
T & N Inc	Ann Arbor	MI	3292, 3714	1	670,624	**
Talley Industries Inc	Phoenix	AZ	3264	1	3,804	***
Tdk Ferrites Corp.	Shawnee	OK	3264, 3679	1	8,339	50
Texas Industries Inc	Dallas	TX	3241	1	20,964	*
Thomson Consumer	Indianapolis	IN	3229	1	2,110,314	43
Veba Corporation	Houston	TX	3299	1	24,254	10
* = not quantifiable against 1988						

Environmental Leadership Program

The Environmental Leadership Program (ELP) is a national initiative piloted by EPA and State agencies in which facilities have volunteered to demonstrate innovative approaches to environmental management and compliance. EPA has selected 12 pilot projects at industrial facilities and Federal installations which will demonstrate the principles of the ELP program. These principles include: environmental management systems, multimedia compliance assurance, third-party verification of compliance, public measures of accountability, community involvement, and mentoring programs. In return for participating, pilot participants receive public recognition and are given a period of time to correct any violations discovered during these experimental projects. (Contact: Tai-ming Chang, ELP Director, 202-564-5081 or Robert Fentress, 202-564-7023)

Project XL

Project XL was initiated in March 1995 as a part of President Clinton's *Reinventing Environmental Regulation* initiative. The projects seek to achieve cost effective environmental benefits by allowing participants to replace or modify existing regulatory requirements on the condition that they produce greater environmental benefits. EPA and program participants will negotiate and sign a Final Project Agreement, detailing specific objectives that the regulated entity shall satisfy. In exchange, EPA will allow the participant a certain degree of regulatory flexibility and may seek changes in underlying regulations or statutes. Participants are encouraged to seek stakeholder support from local governments, businesses, and environmental groups. EPA hopes to implement fifty pilot projects in four categories including facilities, sectors, communities, and government agencies regulated by EPA. Applications will be accepted on a rolling basis and projects will move to implementation within six months of their selection. For additional information regarding XL Projects, including application procedures and criteria, see the May 23, 1995 Federal Register Notice, or contact Jon Kessler at EPA's Office of Policy Analysis (202) 260-4034.

Green Lights Program

EPA's Green Lights program, initiated in 1991, has the goal of preventing pollution by encouraging U.S. institutions to use energy-efficient lighting technologies. The program has over 1,500 participants which include major corporations; small and medium sized businesses; Federal, State and local governments; non-profit groups; schools; universities; and health care facilities. Each participant is required to survey their facilities and upgrade lighting wherever it is profitable. EPA provides technical assistance to the participants through a decision support software package, workshops and manuals, and a financing registry. EPA's Office of Air and Radiation is responsible for operating the Green Lights Program. (Contact: Susan Bullard at 202-233-9065 or the Green Light/Energy Star Hotline at 202-775-6650)

WasteWi\$e Program

The WasteWi\$e Program was started in 1994 by EPA's Office of Solid Waste and Emergency Response. The program is aimed at reducing municipal solid wastes by promoting waste minimization, recycling collection, and the manufacturing and purchase of recycled products. As of 1994, the program had about 300 companies as members, including a number of major corporations. Members agree to identify and implement actions to reduce their solid wastes and must provide EPA with their waste reduction goals along with yearly progress reports. EPA in turn provides technical assistance to member companies and allows the use of the WasteWi\$e logo for promotional purposes. (Contact: Lynda Wynn, 202-260-0700)

or the WasteWi\$e Hotline at 1-800-372-9473)

Climate Wise Recognition Program

The Climate Change Action Plan was initiated in response to the U.S. commitment to reduce greenhouse gas emissions in accordance with the Climate Change Convention of the 1990 Earth Summit. As part of the Climate Change Action Plan, the Climate Wise Recognition Program is a partnership initiative run jointly by EPA and the Department of Energy. The program is designed to reduce greenhouse gas emissions by encouraging reductions across all sectors of the economy, encouraging participation in the full range of Climate Change Action Plan initiatives, and fostering innovation. Participants in the program are required to identify and commit to actions that reduce greenhouse gas emissions. The program, in turn, gives organizations early recognition for their reduction commitments; provides technical assistance through consulting services, workshops, and guides; and provides access to the program's centralized information system. At EPA, the program is operated by the Air and Energy Policy Division within the Office of Policy Planning and Evaluation. (Contact: Pamela Herman, 202-260-4407)

NICE³

The U.S. Department of Energy and EPA's Office of Pollution Prevention are jointly administering a grant program called The National Industrial Competitiveness through Energy, Environment, and Economics (NICE³). By providing grants of up to 50 percent of the total project cost, the program encourages industry to reduce industrial waste at its source and become more energy-efficient and cost-competitive through waste minimization efforts. Grants are used by industry to design, test, demonstrate, and assess the feasibility of new processes and/or equipment with the potential to reduce pollution and increase energy efficiency. The program is open to all industries; however, priority is given to proposals from participants in the pulp and paper, chemicals, primary metals, and petroleum and coal products sectors. (Contact: DOE's Golden Field Office, 303-275-4729)

VIII.C. Trade Association/Industry-Sponsored Activity

The trade associations that represent the Stone, Clay, Glass, and Concrete Products Industry are a valuable source of economic and environmental compliance data. The following two subsections list major stone, clay, glass, and concrete products trade organizations and highlight environmental initiatives sponsored by such trade associations and other manufacturing groups.

VIII.C.1. Environmental Programs

In 1986, California voters approved the Safe Drinking Water and Toxic Enforcement Act, known as Proposition 65. This law requires businesses in California to provide warnings when they expose the public to hazardous chemicals like lead. In early 1993, a group of ceramic dish manufacturers agreed to provide warnings about the lead content in their dishes by marking dishes with a yellow triangle. Dishes with this yellow triangle have been tested and have been found to leach lead into food above Proposition 65 warning levels. Through the use of this triangle, the public is better informed about possible exposure to hazardous chemicals.

VIII.C.2. Summary of Trade Associations

The trade and professional organizations serving the stone, clay, glass, and concrete industry are presented below according to the type of product manufactured.

Concrete

American Concrete Institute (ACI) 22400 West Seven Road Detroit, MI 48219 Phone: (313) 532-2600 Fax: (313) 538-0655	Members: 19,000 Staff: 62 Budget: \$7,600,000 Contact: George F. Leyh
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Founded in 1905, ACI is a technical society of engineers, architects, contractors, educators, and others interested in improving techniques of design construction and maintenance of concrete products and structures. ACI operates a 2,000 volume library and speakers' bureau and offers specialized education seminars. Publications offered by ACI include Concrete International (monthly), ACI Materials Journal (bimonthly), ACI Structural Journal (bimonthly), and technical reports.

Glass

National Glass Association (NGA) 8200 Greensboro Dr., 3rd floor McLean, VA 22102 Phone: (703) 442-4890 Fax: (703) 442-0603	Members: 4,500 Staff: 25 Budget: \$4,000,000 Contact: Philip J. James
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Founded in 1948, NGA represents manufacturers, installers, retailers, distributors, and fabricators of flat, architectural, automotive, and specialty glass and metal products, mirrors, shower and patio doors, windows, and table tops. NGA compiles market statistics and provides educational and technical services. Its publications include Autoglass Magazine (bimonthly) and Glass Magazine (monthly).

Glass Technical Institute (GTI) 12653 Portada Pl. San Diego, CA 92130 Phone: (619) 481-1277 Fax: (619) 481-6771	Members: NP Staff: 3 Budget: For-Profit Contact: Dr. Robert A. Drake
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Founded in 1984, GTI represents companies, suppliers, and engineering firms serving the glass industry. GTI works to promote and improve the glass industry by offering environmental regulation counseling, engineering and technical services, research and development, and product design consulting services. GTI provides an environmental and energy database as well as publications including Glass Factory (periodic).

Stone

National Stone Association (NSA) 1415 Elliot Pl., N.W. Washington, D.C. 20007 Phone: (202) 342-1100 Fax: (202) 342-0702, (800) 342-1415	Members: 425 Staff: 20 Budget: \$2,500,000 Contact: William C. Ford
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Founded in 1985, NSA represents producers and processors of crushed stone used for all construction purposes, railroad ballast, and chemical, metallurgical, and agricultural processes; manufacturers of machinery, equipment, and supplies used in production of crushed stone; firms providing technical, engineering, and /or scientific services. Its activities include research, engineering consultation and testing, product promotion, and representation in Washington, D.C. NSA conducts educational programs and seminars. Its publications include Stone Review

(bimonthly), National Stone Association - Buyer's Guide (annual), and other marketing and technical publications.

Cultured Marble Institute (CMI) 1735 North Lynn Street, Suite 950 Arlington, VA 22209 Phone: (703) 276-2644 Fax: (703) 524-2300	Members: 310 Staff: 4 Regional Groups: 10 Budget: \$600,000 Contact: Edward L. Kawala
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Founded in 1974, CMI represents firms and corporations that make cultured marble products (such as cast marble vanity tops), and firms and corporations that supply raw materials and production equipment to manufacturers of cultured marble products. It promotes the merits of cultured marble products to the market and develops industry-wide standards of product quality and acceptability. CMI represents the cultured marble industry before government and regulatory agencies of all types, and defends the industry against unwarranted regulations. Its publications include Cultured Marble News (quarterly), Forecaster (quarterly), and technical, safety, and regulation bulletins.

Clay

Brick Institute of America (BIA) 11490 Commerce Park Dr. Reston, VA 22091 Phone: (703) 620-0010 Fax: (703) 620-3928	Members: 60 Staff: 15 State Groups: 10 Budget: \$1,500,000 Contact: Nelson J. Cooney
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Founded in 1934, BIA represents manufacturers of clay brick. It maintains a technical library of 2,000 volumes on engineering and ceramics pertinent to masonry construction. BIA publications include BIA News (monthly), Brick in Architecture (bimonthly), and Technical Notes (bimonthly). Other Associations

American Ceramic Society (ACerS) 735 Ceramic Place Westerville, OH 43081 Phone: (614) 794-5817 Fax: (614) 899-6109	Members: 16,000 Staff: 57 Budget: \$7,000,000 Contact: Greg Geiger
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Founded in 1899, ACerS represents scientists, engineers, educators, plant operators, and others interested in the glass, cements, refractories, nuclear ceramics, whitewares, electronics, engineering, and structural clay products industries. It disseminates scientific and technical information through its publications and technical meetings, as well as through the continuing education

courses and training it offers. ACerS operates a 3,400 volume library of materials on ceramic history, brick, cement, glass, and industrial and technical aspects of ceramics, porcelain, and pottery. It also maintains a computerized, online ceramic abstracts database. An hourly fee is charged for ACerS research services, including access to the online database. ACerS publications include the American Ceramic Society Bulletin (monthly), Ceramics Abstracts (bimonthly), and Journal of the American Ceramic Society (monthly).

IX. CONTACTS/ACKNOWLEDGMENTS/RESOURCE MATERIALS/BIBLIOGRAPHY

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1992 Annual Report: Cement, Bureau of Mines, August 1993.

1992 Annual Report: Clays, Bureau of Mines, August 1993.

Waste Audit Study: Stone, Clay, Glass, and Concrete Products Industries, Department of Toxic Substances Control, California EPA, January, 1993. (Doc._No._318)

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Fact Sheet: Ceramic Products Industry Waste Minimization, California EPA, Office of Pollution Prevention and Technology Development, May, 1993.

Pamphlet: Questions and Answers About Proposition 65 and the Warnings on Ceramic Dishes, California Tableware Education and Enforcement Program (1-800-644-LEAD).

Contacts

Name	Organization	Telephone
Dr. Robert Blake	Glass Technical Institute	619-481-1277
Ed Buckner	EPA, Region VII (inspector)	913-551-7621
Greg Geiger	American Ceramic Society	614-794-5817
Harry Miles	Primary Glass Manufacturing Console	615-239-6891
John Harmon	U.S. EPA 33/50 Program	202-260-6395
John Keil	Libby Owens Ford	419-247-3715
Melissa Salinas	California EPA	916-322-7636
Pam Franz	Environmental Defense Fund	510-658-8008
Robert Miller	Bureau of Census	301-763-7897
Nathan Tyler	Glass Packaging Institute	202-887-4850

¹ TOXNET is a computer system run by the National Library of Medicine that includes a number of toxicological databases managed by EPA, National Cancer Institute, and the National Institute for Occupational Safety and Health. For more information on TOXNET, contact the TOXNET help line at 1-800-231-3766. Databases included in TOXNET are: CCRIS (Chemical Carcinogenesis Research Information System), DART (Developmental and Reproductive Toxicity Database), DBIR (Directory of Biotechnology Information Resources), EMICBACK (Environmental Mutagen Information Center Backfile), GENE-TOX (Genetic Toxicology), HSDB (Hazardous Substances Data Bank), IRIS (Integrated Risk Information System), RTECS (Registry of Toxic Effects of Chemical Substances), and TRI (Toxic Chemical Release Inventory). HSDB contains chemical-specific information on manufacturing and use, chemical and physical properties, safety and handling, toxicity and biomedical effects, pharmacology, environmental fate and exposure potential, exposure standards and regulations, monitoring and analysis methods, and additional references.

² EPA Regions include the following States: I (CT, MA, ME, RI, NH, VT); II (NJ, NY, PR, VI); III (DC, DE, MD, PA, VA, WV); IV (AL, FL, GA, KY, MS, NC, SC, TN); V (IL, IN, MI, MN, OH, WI); VI (AR, LA, NM, OK, TX); VII (IA, KS, MO, NE); VIII (CO, MT, ND, SD, UT, WY); IX (AZ, CA, HI, NV, Pacific Trust Territories); X (AK, ID, OR, WA).